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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/084,974      | 03/01/2002  | Koju Aoki            | 108075-00079        | 2186             |

7590 09/27/2002  
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EXAMINER

TON, MY TRANG

ART UNIT PAPER NUMBER

2816

DATE MAILED: 09/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/084,974

Applicant(s)

AOKI ET AL.

Examiner

My-Trang N. Ton

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 030102 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: My-Trang N. Ton

## **DETAILED ACTION**

### ***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “the flip-flop having a clock input terminal for receiving the clock signal from the reference counter, a data input terminal for receiving the internal stage signal from the reference counter” (recited in claim 12, lines 9-11) and “a delay circuit” (recited in claim 17, line 4) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The description of the preferred embodiment in the specification is not fully understood as presently recited. For example, in the description of Fig. 2, the

Art Unit: 2816

specification fails to properly define “detecting whether a current output terminal of the charge pump is in a high impedance state”. Moreover, there is no support given for “the high impedance state is detected”. That is, it is difficult to glean the novel qualities of the presently claimed invention from the specification without an explanation of the function thereto.

***Claim Rejections - 35 USC § 112***

Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The description of the present invention in claim 1 is indefinite since it fails to establish the proper structural and/or functional relationship between the recited circuit elements. The limitation “detecting whether a current output terminal of the charge pump is in a high impedance state” is misdescriptive of the present invention since such limitation is not seen as recited therein. As seen in Fig. 2, the detecting function only occurs at a control terminal of the charge pump 25 (not at an output terminal DO of charge pump 25). How does “the high impedance state” operate? In order to avoid any confusion, Applicant is required to particularly point out how this limitation reads on the circuit arrangement of the drawings.

Claims 2-3 are rendered indefinite by the deficiencies of claim 1.

Claim 4 is similarly rejected as claim 1.

Claims 5-18 are similarly rejected as claims 2-3.

Also, in claim 17, it is not fully clear which element is referred as "a delay circuit". Applicant is required to particularly point out how this limitation reads on the circuit arrangement of the drawings in order to avoid any confusion.

Claim 19 is similarly rejected as claims 1 and 4.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 18-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi (U.S Patent No. 6,097,227).

Hayashi disclose in Fig. 4 a phase locked loop circuit including a PLL circuit (11-13, 20, 40) includes a phase comparator (11), a reference frequency-divided signal (REF), a comparison frequency-divided signal (CK1), a charge pump (20), a voltage-controlled oscillator (12), a low pass filter (40), a lock detecting circuit (50), a state detecting circuit (30) as recited in claims 1, 4 and 18-19. Due to indefiniteness, the limitations "detecting whether a current output terminal of the charge pump is in a high impedance state" recited in these claims can not given sufficient weight to read over the reference.

Claims 1, 4, 18-19 are also rejected under 35 U.S.C. 102(b) as being anticipated by Fukuda (U. S Patent No. 5,831,483).

Art Unit: 2816

Fukuda discloses in Fig. 1 a PLL frequency synthesizer including a PLL circuit (1-6) includes a phase comparator (4), a reference frequency-divided signal (fr), a comparison frequency-divided signal (fv), a charge pump (5), a voltage-controlled oscillator (1), a low pass filter (6), a state detecting circuit (7) as recited in claims 1, 4 and 18-19. Due to indefiniteness, the limitations "detecting whether a current output terminal of the charge pump is in a high impedance state" recited in these claims can not given sufficient weight to read over the reference.

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1, 4-5 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Nam et al (U.S Patent No. 6,226,339).

Nam et al disclose in Fig. 2 a system for detecting phase lock in a phase locked loop including a PLL circuit (200-203) includes a phase comparator (200), a charge pump (201), a voltage-controlled oscillator (203), a low pass filter (202), a lock detecting circuit (207) and a state detecting circuit (208) as recited in claims 1, 4-5 and 18-19. Due to indefiniteness, the limitations "detecting whether a current output terminal of the charge pump is in a high impedance state" recited in these claims can not given sufficient weight to read over the reference.

Art Unit: 2816

The additional references cited in PTOL 892 to show further analogous prior art circuitry. This art is deemed relevant and should be carefully reviewed before any amendment is filed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ton whose telephone number is (703) 308-4868. The examiner can normally be reached on Monday to Thursday from 7 a.m to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

September 25, 2002



My-Trang Ton  
Primary Examiner  
Art Unit 2816